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Elementary education at Nippur. The lists of trees and wooden objects

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Chapter 4 Old Babylonian Lexical Lists and the Science of Writing

4.1 Listenwissenschaft?

From early in the history of Assyriology lexical lists have been associated with *Wissenschaft* or science. Von Soden in his article 'Leistung und Grenze sumerischer und babylonischer Wissenschaft' (1936) introduced the term *Listenwissenschaft*. To him this *Listenwissenschaft* exemplified a typically Sumerian psychological trait: *Ordnungswille*. In origin, according to von Soden, the lists had to mirror the order of the world as it was established by the gods. The lists, therefore, had a cosmological background. The Sumerians, thus von Soden, were not able to codify their views in a coherent argument. Scholarship therefore never went beyond the level of the lists. As an example of von Soden's approach we may take his discussion of Sumerian zoology (1936, p.459f.)¹: 'Bei den Sumerern bildet die Zoologie einen der vielen Teile der Listenwissenschaft, d.h. sie begnügten sich damit, die Tiere und - an anderen Stellen - die Körperteilnamen in Listenform aufzuführen.' The organization of the animal kingdom in the lists was based on linguistic principles rather than proper zoological ones. Thus animals sharing the same root elements in their names were put together. Sumerian zoology never questioned this organization: 'Bemerkenswert ist nur, daß die sumerische "Wissenschaft" offenbar über diese primitive Ordnung der Tiere nach äußeren Ähnlichkeiten nie hinausgekommen ist; man begnügte sich eben mit der einmal gegebenen Ordnung und hatte kein Bedürfnis, sie durch ein näheres Studium der Tiere nachzuprüfen und durch ein andere, bessere zu ersetzen.'

Von Soden's essay became an influential classic. The term *Listenwissenschaft* entered modern scholarship as a technical term. Notwithstanding Oppenheim's protests², the idea that at least some of the lists contained an early form of natural science has been widely accepted. Waetzoldt's description of Mesopotamian biology (1988, pp.32-33) still basically follows the same line of reasoning found in von Soden's treatment of zoology.

In view of recent research in folk biology, von Soden's description of the Sumerian achievements in this field have lost much of their plausibility. The categorization of animals into a hierarchical system is a universal phenomenon. Moreover, the features that are deemed significant for the distinctions between kinds and families are not culturally determined. The categorization of the natural world is cross-culturally very similar and nowhere differs significantly from the taxonomies used in Western biology. The pre-disposition to distinguish living kinds from other objects and to categorize living kinds in a meaningful way is nowadays regarded by cognitive scientists as an innate feature of the human mind, not unlike the 'language instinct'³. It is unlikely that Sumerian science will prove to be the exception here. There is, therefore, reason to doubt that lists of animals have anything to do with Sumerian biology or folk-biology.

¹ Resumed in an abbreviated form in von Soden 1985, p.152.

² See below.

³ *The Language Instinct* is the title of an introductory book on language and cognition by Pinker (1994). See pp.421-427 for folk biology. Some relevant discussions of the same topic are found in a volume edited by L.A. Hirschfeld and S.A. Gelman, most importantly Atran 1994 and Boyer 1994.

Another development that necessitates a re-evaluation of von Soden's approach has taken place in the historiography of the sciences. It has been recognized that the concept of science and its division into disciplines cannot be treated as unproblematic⁴. Science and scholarship are themselves historically defined human enterprises, with a specific social function and background. Barton (1994) argues that Roman scholarship included astrology, physiognomy, and medicine on approximately equal footings. An ancient body of knowledge may contain things rather different from our conception of science, and may be put to uses far removed from what seems proper for a scholarly subject in our eyes. The history of science has for a long time been satisfied with tracing the course of modern scientific ideas through the past. Now it is becoming clear that such an approach is very limited. It isolates those ancient ideas which 'fit' from ideas which cannot be related to ours. Moreover, ideas tend to be treated as more or less independent things, separate from the social context in which they functioned. The unreflected application of the modern concept of science necessarily distorts the relations between the data, putting together what was separate, and separating things that belong together⁵. The first part of the *giš* list which enumerates the trees might be subsumed under botany, but what to make of the much longer list of wooden objects? Lists other than *ur₅-ra*, sign lists, or acrographic lists will not even come under consideration. At the same time the concept biology puts into focus a text such as *šammu šikinšu*⁶. *Šammu šikinšu* (The plant, its appearance is ...) is a first-millennium list which describes medicinal plants by comparison. The descriptions end with a prescription in which the plant in question is used⁷:

The plant which looks like the *urnû*-plant, and whose fruit is like that of the black *aš₂-gu*; this plant is called myrrh. It is good against diarrhoea⁸. You must apply it fresh on the anus. Then (the patient) will get well.

The series is to be classified with medical texts and inventories of pharmacopoeia rather than

⁴ Oppenheim (1977, p.248) already pointed out the problems involved in trying to identify something comparable to our idea of natural science in Mesopotamian culture. See also Oppenheim 1978, pp.634-636.

⁵ The problems touched upon here are discussed in more detail in Lloyd 1992, where they are applied to the understanding of ancient Greek science. In Assyriology the point was discussed as early as 1926 by Landsberger in his famous 'Eigenbegrifflichkeit' essay. Ironically, this essay was reprinted in 1965 and 1974 together with von Soden's 'Leistung und Grenze' by the Wissenschaftliche Buchgesellschaft. Unfortunately, referring to Wilhelm von Humboldt, Landsberger located the most fundamental elements of this 'Eigenbegrifflichkeit' in the structure of the language. The thesis that the structure of a language predetermines what may be said and what may be thought in a given culture was to be developed later by Sapir and Whorf, but has not stood the test of time (see Pinker 1994, pp.59-67).

⁶ No edition of *šammu šikinšu* exists. Published tablets and fragments are *KADP* 33-35; *BAM* IV, 327 and 379; Beckman and Foster 1988, p.7 no.4; *STT* I, 93; *SpBTU* III, 106; and *CTN* IV, 195+196. Related texts are *abnu šikinšu* (stones) and *š₂ēru šikinšu* (snakes). See Oppenheim 1978, p.636 with note 9. For the *šikinšu* texts see Reiner 1995, pp.29-31; and p.120ff. with further literature.

⁷ *KADP* 33, 10-11.

⁸ It is assumed that *KU* is to be read *nišhu* here.

with lexical lists⁹. Treating *šammu šikinšu* together with selected thematic lists under the heading biology can only lead to misunderstanding.

4.2 A Science of Writing

In order to understand Old Babylonian *ur₅-ra* on its own terms it is necessary to consider the context in which it was used. The thematic lists are school texts and belong to the same category as all other contemporary lexical lists. We cannot understand *ur₅-ra* separately from the elementary exercises Syllable Alphabet B and TU-TA-TI, or apart from the specialized sign lists Proto-Ea and Proto-Diri, or apart from the other lists. The corpus acquires its unity from its treatment of writing. The lists form a curriculum that is organized to treat various aspects of the writing system one by one (Chapter 2). In addition to semantics, which governs the arrangement of *ur₅-ra* into divisions and sections, graphemic principles are largely responsible for the organization on a lower level, and for the range of variation that is allowed (Chapter 3). Old Babylonian lexical lists do not treat trees, animals, vessels, birds, or whatever. They treat cuneiform writing.

These same lists cover much of the Sumerian language, and one might be tempted to see in them a treatment of the Sumerian language as well. This is true to some extent. Lists such as TU-TA-TI, Syllable Alphabet B, and Proto-Ea are not directly related to language because they treat the design and phonemic values of signs rather than their meaning. In the other lists both Sumerian and Akkadian play an important role. Necessarily so, because the distance between writing and language in the cuneiform system is much smaller than in alphabetic systems. The point is similar to the comparison between ancient lists and modern science. It can hardly be ignored that some of the thematic lists bear some resemblance to our sciences. One might even argue that learning an endless number of names for trees would sharpen the pupils' eyes to the subtle differences between species and kinds. Sumerian language and empirical reality, however, cannot fully account for the basic unity of the Old Babylonian lexical corpus. The interest in language is a derived one, closely related as it is to the writing system. The relation of this corpus with the reality out there, with the referents of the words listed, is at the most a by-product. The Old Babylonian lexical lists may be considered to be a giant encyclopedia, but an encyclopedia of writing. The intellectual effort involved in compiling and transmitting these lists, in analysing and classifying the single entries was directed at the system of writing. To take the most eloquent examples, the list of polyvalent signs Proto-Ea and the list of compound signs Proto-Diri are products of a theoretical approach to the writing system. They isolate two formative aspects of this system (polyvalency and the combination of signs, respectively) and elaborate these principles in a systematic arrangement. This analysis of the cuneiform system in the lists was very much an analysis in its own right, not guided by an interest in direct applicability. It is appropriate, therefore, to say that the Old Babylonian scribes invented a Science of Writing.

How may we understand the achievement of the Old Babylonian schools in creating this

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It is possible that the consistent use of comparison in the description of the plants is a function of their use in a basically homeopathic kind of medicine. Plants which look alike may have been treated as functionally equivalent. This is perhaps reflected in Reiner's (1995, p.30 and p.120) translation of *šikinšu* as 'its nature'.

science? The question acquires further pertinence from the irrelevance of much of the contents of the lists for the actual practice of a scribe. As pointed out in §2.6, for a career as a scribe a pupil of the eduba learned both too much and too little. He learned far too much about Sumerian and he learned hardly anything about writing Akkadian. The lexical lists dealt with a writing system that was used in literary texts. Literary texts were only written in the context of the school. And thus we come full circle. Høyrup has demonstrated that a similar point may be made for mathematical school texts. The Old Babylonian period saw an explosion in mathematical progress. Mathematical problem texts start from daily life situations: a canal to be dug, a ramp to be built, and so on. The problem may often be reduced mathematically to a second-order equation, that is, a quadratic equation with two unknowns¹⁰. Notwithstanding their self-presentation, these problem texts are puzzles with no relevance for daily life whatsoever. Høyrup (1994, p.81f.) discusses the example of the unfinished ramp that is to be used to besiege a city. Among the numbers given are the height already reached and the amount of earth to be used. Among the unknowns is the intended final length of the ramp. This, of course, is nice as a puzzle, but rather difficult to imagine as a real-life problem.

The existence of the Science of Writing might be approached through the theories of literacy advanced by the anthropologist Jack Goody¹¹. Goody is one of the few writers outside Assyriology who have paid attention to the Mesopotamian lexical lists. In an article written in 1963, together with I. Watt, Goody argues that the introduction of alphabetic writing was a decisive factor in the development of abstract and theoretical thinking in classical Greece. In later publications Goody considerably qualified his original thesis and widened his scope to non-alphabetic writing systems. The crucial point of his thesis, however, remained unchanged: the importance of the technology of communication for the development of human cognition. Changes in this technology include the introduction of writing, the transition from non-alphabetic to alphabetic systems, and the introduction of the printing press. Goody denies proposing a mono-causal theory; he claims to be describing a 'trend', not an all-decisive cause. In later studies (Goody 1986 and 1987) he explicitly allows for different uses of writing in different societies. Nevertheless, according to Goody a general pattern may be discerned in all these particularities. The importance of writing for cognitive and intellectual development is due to its decontextualizing effect¹². A message, or a body of knowledge which is put into writing, is abstracted from the immediate context in which it was used or created. Outside this original context it may be re-evaluated. One of the factors contributing to the decontextualizing effects of writing, according to Goody, is layout. Speech has no spatial aspect but writing has. With the introduction of writing existing knowledge may be put into other formats which may have considerable heuristic value. One of the text formats discussed by Goody is the list (Goody 1977, pp.74-111), with due attention to the Mesopotamian lexical texts. The author maintains that in an oral situation there are few occasions which give rise to the recitation of a list. The concept of an oral list, so he argues, is not inconceivable, but a list put into writing has a beginning and an end, and therefore requires definite decisions being taken about what is to be included and what not, and where each specific item is to be placed. The cognitive challenge of a written list is therefore

¹⁰ See Neugebauer 1957, Chapter 2.

¹¹ Goody's theories have found little response in Assyriology so far. See, however, Larsen 1987 and Michalowski 1994.

¹² In the Assyriological context this point has been discussed by Vanstiphout 1995a, p.2187.

not comparable to that of an oral list. Written lists, according to Goody, trigger potentially important questions of classification.

With respect to the Old Babylonian lexical lists one might argue against Goody that we have no evidence that Mesopotamian lexical lists incited closer observation of the objects listed. As von Soden already remarked, Mesopotamians did not ask the classificatory questions which might have led to a Greek kind of biology. We have plenty of evidence, however, that the lists were modified and reinterpreted. Most lists had no fixed text in the Old Babylonian period. In §3.2 we have seen examples of sections where the problem of the exact arrangement of the items was kept open. The exercises containing the section ^{giš}gigir (chariot) show various alternative sequences. Most exercises share approximately the same set of items but there is no one standard sequence. In all cases, however, the solution to the sequencing problem follows one of a few basically graphemic rules. In other words: the lists do trigger important classificatory questions within their own field, the field of the Science of Writing.

However, in the light of the history of the Mesopotamian lexical lists this interpretation of Goody's theory leads to paradoxical results. The flexibility of the lexical lists in the second millennium is the exception. Third millennium and first millennium lists are generally fixed in their wording and in their organization. For first millennium lists one could argue that the process of interpretation went on in the creation of the commentary lists (mur-gud; see §2.5.2.2). In other words, the lists still triggered questions, though apparently not questions of order nor questions of selection. For third millennium lists no such mitigating circumstances can be found. There is no evidence that these lists were functional in creating the questions necessary for an intellectual commitment to the writing system, or to anything else. Moreover, as we have argued in §3.6, the opposition between a written list and an oral list - fundamental to Goody's account - is too rigid to understand the Old Babylonian lexical texts. The tablets with extracts from the list of trees and wooden objects we have are, obviously, written artefacts. But none of these tablets, not even the large type I examples, represent the ^{giš} list as such. The variants found in the section chariots are variants of a modern construct: the standardized text. No such standard existed in ancient times, except on a more abstract level. On this abstract level the rules that govern the organization of the text and that limit its variability are defined. It may be said, therefore, that this abstract text includes all possible variants, or rather that the abstract text contains the rules that generate variants. The generative character of the rules governing the sequentiality of the items justifies our taking later developments of the list such as are found in Emar and in first millennium sources as evidence. The development of the list over time is the diachronic counterpart of the synchronic set of variants¹³. The problem of classification, of inclusion or exclusion, is not a problem that arises from re-evaluating a written document but from transforming a virtual text - stored in and shaped by memory - into a material text. The intellectual commitment to cuneiform writing as it is found in the schools cannot, therefore, be explained by Goody's theory of the cognitive challenge raised by reducing a list to writing. Quite the contrary, the intellectual commitment precedes the lists and explains them.

4.3 The Social Uses of the Science of Writing

¹³ Which is not to deny that the rules themselves changed over time.

Recent critiques of Goody's understanding of writing as a technique with more or less predictable effects on society have been conveniently summarized by Probst (1992). Historical and ethnological research has shown that in different cultures writing is used and perceived differently and has different consequences. Writing is much more than a technique, it is also a social phenomenon affected by socially determined meanings. Probst argues that an understanding of literacy includes understanding the meaning of writing, the symbolic value of the written text, the symbolic value of being able to read and write or not being able to, and the social uses to which this meaning is put. Probst's arguments tally well with recent research into the history of sciences, where the place of the scholar in society and the social uses to which knowledge is put have become the focus of attention¹⁴.

To gain a better understanding of the social meaning of the Science of Writing we may look for general explanatory models regarding the social uses of knowledge and writing and its relation to education. Young (1971) has pointed out that societies invariably recognize a stratification of knowledge. Some kinds of knowledge are seen as intrinsically more worthwhile than others. This stratification is a cultural construct and is subject to historical change. Theology is an example of a field of knowledge that has moved down the hierarchy since the establishment of the medieval universities. The hierarchy of knowledge is an important factor in the arrangement of curricula. According to Young (p.38) higher level knowledge is characterized, among other things, by its unrelatedness. It has no direct application and the higher the status of the knowledge is, the more removed it is from daily practice.

In the Old Babylonian period writing was located high in the hierarchy of knowledge. The scribal system was so complicated that mastery of this system implied a high status. But its complexity was an unnecessary one. As exemplified by Old Assyrian writing - slightly earlier in time than our material - cuneiform writing can make do with about 100 to 200 signs, with almost no polyvalency. The flexibility of the cuneiform system is such that simplifications of this kind may be carried through without modification of the basic principles. Since there is no reason to believe that the scribes in Nippur were less clever than those in Assur or Kaniš, the conclusion is that the Old Babylonian scribes did not want a simpler system. They wanted a more complicated system and so created it. We should not think of this complicated system as a kind of cryptography. There is very little evidence, if any, that there are Old Babylonian texts which deliberately conceal their contents from outsiders. The explanation must be that the Old Babylonian scribes were interested in a complicated writing system because it created a realm of high-status knowledge. Young's account explains why writing, as taught in the eduba, is not conceived of as a practical skill but as a scholarly subject.

In the eduba this complicated writing system is closely connected with a body of Sumerian literary texts, some traditional, some newly created. This literature has no practical value either, though some compositions may have been valued for their ideological utility (see Michalowski 1987a). Among the apparent exceptions is the literary composition known as the 'Farmers Instructions' (Civil 1994), a Sumerian Georgica, which gives instructions for proper farming. The

¹⁴ A summary of recent developments in the historiography of the sciences is found most conveniently in Barton 1994, pp.1-25.

instructions found in the text represent the current farming practice of the time. However, the very fact that it has been composed in literary Sumerian shows that its practical value is not primary. There is nothing in it that could not - with less effort - be transmitted orally. The 'Farmer's Instructions' represent a kind of nostalgia, a reliable indication of the feelings of superiority on the part of the occupants of the eduba over the farmers. This was not their daily world, this was a world they could objectivize and transform into an aesthetic object.

To sum up, the eduba created a field of higher knowledge by first employing a writing system more complicated than necessary, and then creating a curriculum that contained much more than was needed to master this writing system. This must still seem an unwarranted investment in nothing, an irrelevant loss of energy and intellectual power. Cooper (1993) has proposed that Babylonian national identity be understood as a 'textual community'. The term, originally coined to explain some characteristics of medieval sects (Stock 1990), is felicitous, though I would rather restrict this community to the circle of scribes¹⁵. The curriculum of the eduba creates a community of graduates who have read and learned the same body of lists and literary texts, placing themselves in the tradition of Sumerian literature and scholarship. They share a common background and common interests. The teaching of Latin and Greek may have, or have had, a similar effect in modern times. People sharing their knowledge of Greek paradigms, having read the same passages of Homer, share experiences even if they have never met before. And by the same token they can effectively exclude those who do not share this experience. The sense of recognition, of being a group with a group identity (a textual identity, that is), may have been important for the position of the scribes in the administration. The common textual background may have helped the scribes to locate their identity and loyalty with the other scribes and administrators rather than with their own clan or family¹⁶.

The issue may be placed into a wider perspective by referring to the concept 'cultural capital' by Pierre Bourdieu. Cultural capital is used by one social group to distinguish itself from other groups. Bourdieu's analysis of the social function of 'good taste' (one aspect of cultural capital) therefore bears the title *La Distinction* (1979). This distinction is a covert form of power. It regulates the inclusion and exclusion of people in certain circles, not by physical force but by implicit rules of behaviour and taste. The pupils at the eduba learn a skill but also, and more importantly, they acquire cultural capital. They need this capital to legitimize their future place in society. A true scribe is a scribe who fits the social definition of his group. He knows Sumerian, is at home in the lexical texts, and shares his appreciation for the literary corpus with his fellow scribes. As a part of the 'textual community' he possesses, in short, nam-lu₂-ulu₃: 'humanity'¹⁷,

¹⁵ Stock used the concept 'textual community' to describe the identity of a group in some relation to a text. The groups described were 'sects' because they ventured their own interpretations of biblical texts. In Stock's definition a textual community may well contain a majority of analphabets. Similarly one could argue that the textual community in Babylonia was larger than the group of literati, but there is no way of knowing whether or how the non-literati related themselves to the classical texts. Further, it should be stressed that in Stock's view the content of the defining text (or rather the content as it was assimilated by the group) is a major aspect of the social organization of the group. This is not necessarily the case for the Old Babylonian scribes. The important point here is simply that they shared knowledge of a group of texts.

¹⁶ For this point see Michalowski 1987a, especially p.52.

¹⁷ For the translation of nam-lu₂-ulu₃ as humanity see Van Dijk 1953, p.23f.; Limet 1982.

distinction. Sumerian literary texts contain plenty of evidence for this self-esteem of the scribe, and of the social distance created between the scribe and the common man. One example is a well-known Sumerian riddle¹⁸:

A house which has a foundation (strong) like heaven,
a house which is covered with a veil like a tablet box,
a house put on a base like a goose,
one enters it blind,
leaves it seeing.
Solution: the eduba.

The connection between supreme wisdom, writing, and the eduba is found in numerous royal hymns extolling the deeds of kings from the Ur III and the early Old Babylonian periods¹⁹.

It is impossible to do justice here to the complex relations in Bourdieu's analyses between power, capital, taste, social background, art, knowledge, and other elements of private and social life. A few elements may be isolated here. First, one might be inclined to assume that the acquisition of cultural capital at school provides an opportunity for upward social mobility. This may indeed be the case for individuals but Bourdieu's analysis has shown that schooling does not have the effect of levelling out differences between social classes. Even if access to school is not restricted to specific groups in society, social background remains an important determinant in scholastic success. Moreover, and more importantly, social background influences the actual profit that can be taken from scholastic success in the form of career and income (Bourdieu 1979, *passim*). Bourdieu argues that the parvenu who succeeds in climbing the social ladder still bears the birth marks which qualify him as a parvenu, and which effectively distinguish him from the legitimate inhabitants of the social space into which he has intruded. We know little or nothing about the social background of those who attended the eduba, or about the social value of knowledge. There is reason to assume that all societies (or rather: all social groups) have some set of mechanisms to protect the social status quo. At any rate, access to school is impossible without the economic means to allow oneself to be temporarily unproductive²⁰. The more complicated the curriculum is, the more time it will take and the more effective this economic barrier will be. It is more reasonable, therefore, to interpret the school as a barrier against social mobility.

Second, Bourdieu pays attention to the ambivalent position of the autodidact. The autodidact has acquired a certain amount of cultural capital, but not through the legitimate channels. In the main he is not accepted socially as being on an equal footing with those who acquired similar knowledge and skills through proper schooling. We must ask whether all scribes had in fact gone through the full curriculum of the eduba. We have no direct evidence to answer this question. A few considerations are in order. First, higher education is necessarily for the few. All evidence suggests that the Nippur eduba represented higher education. Second, there are a number of

¹⁸ Civil 1987b, pp.19-20.

¹⁹ These passages have been translated in Sjöberg 1975.

²⁰ Schooling, according to Bourdieu, is a conversion of economic into cultural capital. On economic, cultural, and social capital and the means of conversion between them see Bourdieu 1983.

scribal tasks which could well be performed by someone with minimal literacy. An extreme example is the writing of animal tags. Such tags were fastened to the neck of an animal. They contained no more than the name of the shepherd and the word for the animal involved:

1 ewe
Shepherd:
Dadia²¹.

These tags are lumps of clay. They have three holes; apparently they are formed around a knot in a rope. The tag must be inscribed at the moment that it is attached to the rope, probably a rope that is already around the sheep's neck. It is perfectly possible that Dadia was capable of writing

a tag like this himself. It is improbable that he went to a scribal workshop with his ewe to let someone else write it for him.

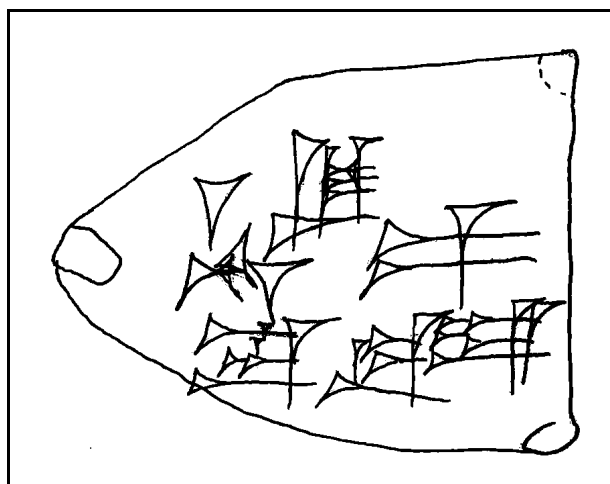


Fig 4.1 Animal Tag. Collection University of Groningen; 2x3cm.

For the Ur III period the existence of different levels of scribal competence has been demonstrated (Steinkeller 1989, pp.6-7). Scribes of lower competence were not in charge of the administration but hired themselves out to private individuals²². The relation between differences in competence and different occupations is likely to have a counterpart in a different trajectory of learning, and a different volume of cultural capital. It is plausible that a similar differentiation existed in the Old Babylonian period. The very fact that at the Nippur eduba the pupils were taught such an

excessive amount of Sumerian may suggest that this was done to create a clear differentiation between properly educated scribes, and scribes who had merely acquired the necessary skills. The Nippur school is described in a school essay as the eduba par excellence (Van Dijk 1989, p.450). This characterization possibly reflects a historical reality in which various local schools were distinguished by prestige and by the cultural capital that could be acquired there. Perhaps it is no accident that Nippur has yielded by far the richest harvest of literary school tablets. Aristocracy, according to Bourdieu, is characterized by a taste for the unnecessary. Put another way, aristocracy transforms the necessities of life such as eating into an art. The eduba

²¹ The tag belongs to the collection of the Institute of Near Eastern Languages and Cultures of the University of Groningen. The shepherd Dadia is known from other tags (e.g. *BRM* 3, 60). Published animal tags are listed in Waetzoldt 1986a. In themselves these objects are rather uninteresting. It is therefore probable that many more examples remain unpublished.

²² Ur III incantations may be classified with the products of lower-level scribes (see Veldhuis 1993). One of the Old Babylonian incantations from Nippur similarly demonstrates a low level of competence in Sumerian (UM 29-15-5). According to its editor the scribe 'ne semble pas être passé par les meilleurs écoles de Nippur' (Cavigneaux 1995, p.94).

transformed the necessary skills of literacy into the art of being versed in literature and in the Science of Writing. What a scribal pupil learned has been characterized by Høyrup (1994, p.66) as virtuosity in writing, implying both a thorough knowledge and distance from necessity. Even more implicit and hidden in the curriculum are the dispositions and values the scribal pupil acquired, in short the 'habitus' necessary for admission to the dominant class.

The treatment of writing as a science was to be of profound influence on the history of Mesopotamian literacy. In the Old Babylonian period it is restricted to the school. In the first millennium more and more of the intellectual specialists entrusted their knowledge to writing. The importance of written texts for all kinds of specialized knowledge increased, and the corpus of traditional texts was set free from the narrow context of scribal education. The Science of Writing similarly broadened its scope. It is not only used to understand writing itself, but also applied to traditional texts in order to unveil a hidden message. The analysis of the names of Marduk in *Enuma Eliš* (Bottéro 1977), the treatment of temple names in *Tintir* (George 1992), and the complex exegetical tools in the late commentary texts (Livingstone 1986) are a few examples of this inheritance. Not only the uses of literacy but also the social place of the scribes had undergone profound changes. One of the factors in the latter change was the fact that cuneiform had to compete with alphabetic Aramaic writing. In short, the transmission of the Science of Writing to the first millennium was accompanied by important shifts in context and application and it therefore acquired an almost entirely new identity.